

What Is Claimed Is:

1. An isolated polypeptide comprising an amino acid sequence at least 95 % identical to a member selected from the group consisting of:

(a) 30 or more contiguous amino acids of SEQ ID NO:2; and

(b) 30 or more contiguous amino acids of SEQ ID NO:4.

2. The isolated polypeptide of claim 1, wherein said amino acid sequence is at least 95% identical to (a).

3. The isolated polypeptide of claim 1, wherein said amino acid sequence is at least 95% identical to (b).

4. The isolated polypeptide of claim 2, which is at least 95% identical to 50 or more contiguous amino acids of SEQ ID NO:2.

5. The isolated polypeptide of claim 3, which is at least 95% identical to 50 or more contiguous amino acids of SEQ ID NO:4.

6. The isolated polypeptide of claim 1, which is produced in a recombinant host cell.

7. An isolated polypeptide comprising 10 or more contiguous amino acids of SEQ ID NO:2.

8. An isolated polypeptide comprising 10 or more contiguous amino acids of SEQ ID NO:4.

9. The isolated polypeptide of claim 7, which comprises 16 or more contiguous amino acids of SEQ ID NO:2.

10. The isolated polypeptide of claim 8, which comprises 16 or more contiguous amino acids of SEQ ID NO:4.

11. The isolated polypeptide of claim 9, which comprises 30 or more contiguous amino acids of SEQ ID NO:2.

12. The isolated polypeptide of claim 10, which comprises 30 or more contiguous amino acids of SEQ ID NO:4.

13. The isolated polypeptide of claim 11, which comprises 50 or more contiguous amino acids of SEQ ID NO:2.

14. The isolated polypeptide of claim 12, which comprises 50 or more contiguous amino acids of SEQ ID NO:4.

15. The isolated polypeptide of claim 7, which is produced in a recombinant host cell.

16. The isolated polypeptide of claim 8, which is produced in a recombinant host cell.

17. The isolated polypeptide of claim 11, which migrates on a SDS-PAGE gel at a molecular weight selected from the group consisting of about 15 kDa, about 21 kDa, about 29 kDa, about 31 kDa, about 36 kDa, about 37 kDa, about 38 kDa, about 39 kDa, about 40 kDa, about 41 kDa, about 43 kDa, about 45 kDa, about 59 kDa, about 80 kDa, and greater than about 200 kDa.

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18. The isolated polypeptide of claim 12, which migrates on a SDS-PAGE gel at a molecular weight selected from the group consisting of about 15 kDa, about 21 kDa, about 29 kDa, about 31 kDa, about 36 kDa, about 37 kDa, about 38 kDa, about 39 kDa, about 40 kDa, about 41 kDa, about 43 kDa, about 45 kDa, about 59 kDa, about 80 kDa, and greater than about 200 kDa.

19. The isolated polypeptide of claim 11, which migrates on a SDS-PAGE gel at a molecular weight of about 21 kDa, about 36 -38 kDa, and about 38-40 kDa.

20. The isolated polypeptide of claim 12, which migrates on a SDS-PAGE gel at a molecular weight of about 21 kDa, about 36 -38 kDa, and about 38-40 kDa.

21. An isolated polypeptide fragment of the 350 amino acid Vascular Endothelial Growth Factor-2 polypeptide shown in SEQ ID NO: 4, wherein said fragment migrates on a SDS-PAGE gel at a molecular weight of about 21 kDa.

22. The polypeptide fragment of claim 21, which promotes angiogenesis.

23. The polypeptide fragment of claim 21, which promotes endothelialization.

24. The polypeptide fragment of claim 21, which promotes vascularization.

25. An isolated polypeptide comprising amino acids 61-74 of SEQ ID NO:4.

26. An isolated polypeptide comprising:

(a) amino acids 154-167 of SEQ ID NO:18; and

(B) 30 or more contiguous amino acids of SEQ ID NO:18.

27. The isolated polypeptide of claim 26, further comprising 50 or more contiguous amino acids of SEQ ID NO:18.

28. The isolated polypeptide of claim 25 or 26, which is antigenic.

29. The isolated polypeptide of claim 25 or 26, which promotes angiogenesis.

5 30. The isolated polypeptide of claim 25 or 26, which promotes epithelialization.

31. The isolated polypeptide of claim 25 or 26, which promotes vascularization.

32. An isolated polypeptide comprising an amino acid sequence at least 95% identical to a member selected from the group consisting of:

- (a) amino acids 1 to 419 of SEQ ID NO:18;
- (b) amino acids 2 to 419 of SEQ ID NO:18; and
- (c) amino acids 47 to 419 of SEQ ID NO:18.

33. The isolated polypeptide of claim 32, wherein said member is (a).

15 34. The isolated polypeptide of claim 32, wherein said member is (b).

35. The isolated polypeptide of claim 32, wherein said member is (c).

36. The isolated polypeptide of claim 33, wherein the amino acid residues from 154 to 167 of SEQ ID NO:18 are conserved.

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37. The isolated polypeptide of claim 34, wherein the amino acid residues from 154 to 167 of SEQ ID NO:18 are conserved.

38. The isolated polypeptide of claim 35, wherein the amino acid residues from 154 to 167 of SEQ ID NO:18 are conserved.

5 39. The isolated polypeptide of claim 36, wherein the Cys residues at positions 131, 173, 209 and 211 of SEQ ID NO:18 are conserved.

40. The isolated polypeptide of claim 37, wherein the Cys residues at positions 131, 173, 209 and 211 of SEQ ID NO:18 are conserved.

41. The isolated polypeptide of claim 38, wherein the Cys residues at positions 131, 173, 209 and 211 of SEQ ID NO:18 are conserved.

42. An isolated polypeptide comprising a member selected from the group consisting of:

(a) amino acids 1 to 419 of SEQ ID NO:18;

(b) amino acids 2 to 419 of SEQ ID NO:18; and

15 (c) amino acids 47 to 419 of SEQ ID NO:18.

43. The isolated polypeptide of claim 42, wherein said member is (a).

44. The isolated polypeptide of claim 42, wherein said member is (b).

45. The isolated polypeptide of claim 42, wherein said member is (c).

46. An isolated polypeptide comprising an amino acid sequence at least 95% identical to amino acids 1-396 of SEQ ID NO:2.

47. An isolated polypeptide comprising amino acids 1-396 in SEQ ID NO:2.

5 48. An isolated polypeptide comprising an amino acid sequence at least 95% identical to a member selected from the group consisting of:

- (a) amino acids -24 to 326 of SEQ ID NO:4;
- (b) amino acids -23 to 326 of SEQ ID NO:4;
- (c) amino acids 1 to 326 of SEQ ID NO:4;
- (d) amino acids -24 to 290 of SEQ ID NO:4;
- (e) amino acids -23 to 290 of SEQ ID NO:4; and
- (f) amino acids 1 to 290 of SEQ ID NO:4.

49. The isolated polypeptide of claim 48, wherein said member is (a).

15 50. The isolated polypeptide of claim 48, wherein said member is (b).

51. The isolated polypeptide of claim 48, wherein said member is (c).

52. The isolated polypeptide of claim 48, wherein said member is (d).

53. The isolated polypeptide of claim 48, wherein said member is (e).

54. The isolated polypeptide of claim 48, wherein said member is (f).
55. The isolated polypeptide of claim 49, wherein the amino acid residues from 61 to 74 of SEQ ID NO:4 are conserved.
56. The isolated polypeptide of claim 50, wherein the amino acid residues from 61 to 74 of SEQ ID NO:4 are conserved.
57. The isolated polypeptide of claim 51, wherein the amino acid residues from 61 to 74 of SEQ ID NO:4 are conserved.
58. The isolated polypeptide of claim 52, wherein the amino acid residues from 61 to 74 of SEQ ID NO:4 are conserved.
59. The isolated polypeptide of claim 53, wherein the amino acid residues from 61 to 74 of SEQ ID NO:4 are conserved.
60. The isolated polypeptide of claim 54, wherein the amino acid residues from 61 to 74 of SEQ ID NO:4 are conserved.
61. The isolated polypeptide of claim 55, wherein the Cys residues at positions 38, 80, 116 and 118 of SEQ ID NO:4 are conserved.
62. The isolated polypeptide of claim 56, wherein the Cys residues at positions 38, 80, 116 and 118 of SEQ ID NO:4 are conserved.
63. The isolated polypeptide of claim 57, wherein the Cys residues at positions 38, 80, 116 and 118 of SEQ ID NO:4 are conserved.

64. The isolated polypeptide of claim 58, wherein the Cys residues at positions 38, 80, 116 and 118 of SEQ ID NO:4 are conserved.

65. The isolated polypeptide of claim 59, wherein the Cys residues at positions 38, 80, 116 and 118 of SEQ ID NO:4 are conserved.

5 66. The isolated polypeptide of claim 60, wherein the Cys residues at positions 38, 80, 116 and 118 of SEQ ID NO:4 are conserved.

67. An isolated polypeptide comprising a member selected from the group consisting of:

- (a) amino acids -24 to 326 of SEQ ID NO:4;
- (b) amino acids -23 to 326 of SEQ ID NO:4;
- (c) amino acids 1 to 326 of SEQ ID NO:4;
- (d) amino acids -24 to 290 of SEQ ID NO:4;
- (e) amino acids -23 to 290 of SEQ ID NO:4; and
- 10 (f) amino acids 1 to 290 of SEQ ID NO:4.

68. The isolated polypeptide of claim 67, wherein said member is (a).

69. The isolated polypeptide of claim 67, wherein said member is (b).

70. The isolated polypeptide of claim 67, wherein said member is (c).

71. The isolated polypeptide of claim 67, wherein said member is (d).
72. The isolated polypeptide of claim 67, wherein said member is (e).
73. The isolated polypeptide of claim 67, wherein said member is (f).
- 5 74. An isolated polynucleotide encoding the polypeptide of claim 1, 7, 8, 21, 25, 26, 32, 42, 46, 47, 48, or 67.
75. A vector containing the polynucleotide of claim 74.
76. A host cell containing the vector of claim 75.

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